

Proposed

PERMIT TO OPERATE 8070

and

PART 70 OPERATING PERMIT 8070

**PXP - LOMPOC/POINT PEDERNALES
MURPHY BROTHERS LEASE**

**LOMPOC OILFIELD
SANTA BARBARA COUNTY, CALIFORNIA**

OWNER/OPERATOR

Plains Exploration & Production Co. (PXP)

**Santa Barbara County
Air Pollution Control District**

December 2009

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ABBREVIATIONS/ACRONYMS

AP-42	USEPA's <i>Compilation of Emission Factors</i>
APCD	Santa Barbara County Air Pollution Control District
API	American Petroleum Institute
ASTM	American Society for Testing Materials
BACT	Best Available Control Technology
bpd	barrels per day (1 barrel = 42 gallons)
CAM	compliance assurance monitoring
CEMS	continuous emissions monitoring
dscf	dry standard cubic foot
EU	emission unit
°F	degree Fahrenheit
gal	gallon
gr	grain
HAP	hazardous air pollutant (as defined by CAAA, Section 112(b))
H ₂ S	hydrogen sulfide
I&M	inspection & maintenance
k	kilo (thousand)
l	liter
lb	pound
lbs/day	pounds per day
lbs/hr	pounds per hour
LACT	Lease Automatic Custody Transfer
LPG	liquid petroleum gas
M	mega (million)
MACT	Maximum Achievable Control Technology
MM	million
MW	molecular weight
NEI	net emissions increase
NG	natural gas
NSPS	New Source Performance Standards
O ₂	oxygen
OCS	outer continental shelf
ppm (vd or w)	parts per million (volume dry or weight)
psia	pounds per square inch absolute
psig	pounds per square inch gauge
PRD	pressure relief device
PTO	Permit to Operate
RACT	Reasonably Available Control Technology
ROC	reactive organic compounds, same as "VOC" as used in this permit
RVP	Reid vapor pressure
scf	standard cubic foot
scfd (or scfm)	standard cubic feet per day (or per minute)
SIP	State Implementation Plan
STP	standard temperature (60°F) and pressure (29.92 inches of mercury)
THC	Total hydrocarbons
tpy, TPY	tons per year
TVP	true vapor pressure
USEPA	United States Environmental Protection Agency
VE	visible emissions
VRS	vapor recovery system

1.0 Introduction

1.1 Purpose

General: The Santa Barbara County Air Pollution Control District (APCD) is responsible for implementing all applicable federal, state and local air pollution requirements that affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et seq. The applicable local regulations can be found in the APCD's Rules and Regulations. This is a combined permitting action that covers both the Federal Part 70 permit (*Part 70 Operating Permit 8070*) as well as the State Operating Permit (*Permit to Operate 8070*).

Part 70 Permitting: The initial Part 70 permit for the Murphy Bros. Lease was issued October 17, 2000 in accordance with the requirements of the APCD's Part 70 operating permit program. This is the third renewal of the Part 70 permit and may include additional applicable requirements. The Murphy Brothers Lease is a part of the PXP Lompoc/Point Pedernales Stationary Source, which is a major source for VOC¹ and NO_x. The Murphy Brothers Lease is a part of the PXP Lompoc/Point Pedernales Stationary Source, which is a major source for VOC² and NO_x. Conditions listed in this permit are based on federal, state or local rules and requirements. Sections 9.A, 9.B and 9.C of this permit are enforceable by the APCD, the USEPA and the public since these sections are federally-enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. Conditions listed in Section 9.D are "APCD-only" enforceable.

Pursuant to the stated aims of Title V of the CAAA of 1990 (i.e., the Part 70 operating permit program), this permit has been designed to meet two objectives. First, compliance with all conditions in this permit would ensure compliance with all federally-enforceable requirements for the facility. Next, the permit would be a comprehensive document to be used as a reference by the permittee, the regulatory agencies and the public to assess compliance.

1.2 Facility Overview

- 1.2.1 General Overview: The Murphy Brothers Lease, located approximately 2.5 miles north of the city of Lompoc, was previously owned and operated by Unocal. On April 9, 1996, Unocal transferred this facility to Nuevo Energy Company as the sole owner and Nuevo as the operator. On May 14, 1997 the APCD issued a Transfer of Ownership to reflect this change. On April 9, 1997 Bellwether

¹ VOC as defined in Regulation XIII has the same meaning as reactive organic compounds as defined in Rule 102. The term ROC shall be used throughout the remainder of this document, but where used in the context of the Part 70 regulation, the reader shall interpret the term as VOC.

² APCD Rule 102, Definition: "Northern Zone"

PXP - Lompoc/Point Pedernales Stationary Source

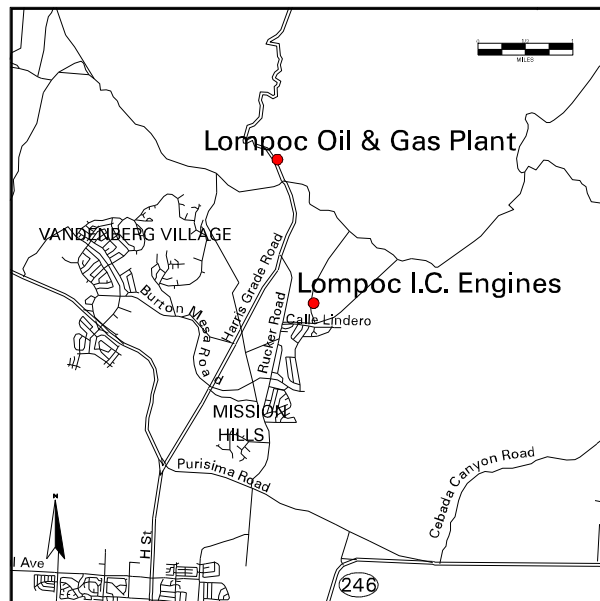
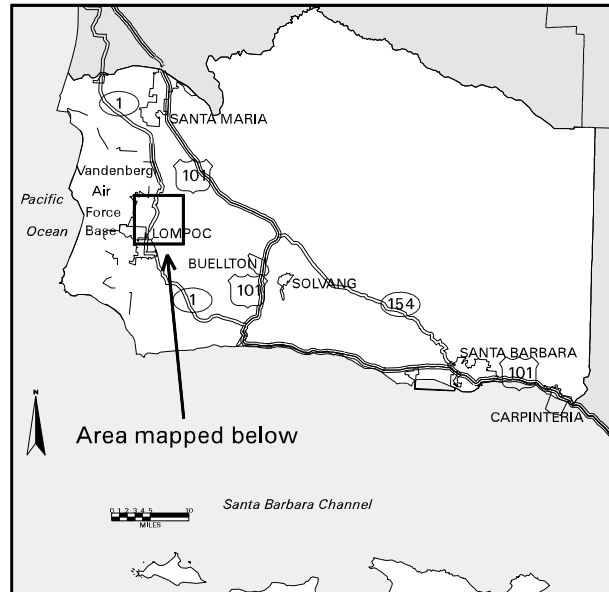


Figure 1.1 - Location Map for the Murphy Brothers Lease

Exploration Company acquired a 19.7-percent ownership in the Lompoc/Point Pedernales Stationary Source that was subsequently transferred back to Nuevo. On February 7, 2000 the APCD issued a transfer of ownership to reflect this change. On February 27, 2001, operatorship was transferred from Torch to Nuevo. On September 23, 2004 ownership and operatorship was transferred from Nuevo to PXP. For APCD regulatory purposes, the facility location is in the Northern Zone of Santa Barbara County². Figure 1.1 shows the relative location of the facility within the county. The Murphy Brothers Lease was constructed prior to 1979 and is a part of the *PXP Lompoc/Point Pedernales Stationary Source* (SSID 4632), which consists of the following facilities:

- La Purisima Lease (FID 3069)
- Lompoc Oil and Gas Plant (FID 3095)
- Jesus Maria “D” Lease (FID 3309)
- Orcutt Fee (FID 3310)
- Murphy Brothers Lease (FID 3799)
- Eefson Lease (FID 3802)
- Jesus Maria “A” Lease (FID 3832)
- Lompoc Fee (FID 3837)
- Hill Lease (FID 3839)
- Arkley Fee (FID 4117)
- Lompoc Internal Combustion Engines (FID 4218)
- Platform Irene (FID 8016)

The Murphy Brothers Lease consists of the following oil and gas production systems:

- Oil and gas wells

Two oil and gas wells are located on the Murphy Brothers Lease. The emissions from this facility are from fugitive hydrocarbons and well cellars. There is no permit-exempt equipment on the Murphy Brothers Lease.

- 1.2.2 Facility New Source Review Overview: All of the equipment on the Murphy Brothers Lease was in place and operating before a permit to operate was required. Therefore, the equipment was not subject to New Source Review requirements. No Authority to Construct permits have been issued for the Murphy Brothers Lease.

1.3 **Emission Sources**

The emissions from the Murphy Brothers Lease come from fugitive hydrocarbons associated with oil and gas wells and their cellars. Section 4 of the permit provides the APCD's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted emission units.

The emission sources include:

- Two (2) oil and gas wells and well cellars
- Fugitive emission components in gas/liquid hydrocarbon service

A list of all permitted equipment is provided in Section 10.5.

1.4 Emission Control Overview

Air quality emission controls are utilized at the Murphy Brothers Lease for a number of emission units. The emission controls employed at the facility include:

- An Inspection & Maintenance program for detecting and repairing leaks of hydrocarbons from piping components, i.e., valves, flanges and seals, consistent with the requirements of the APCD Rule 331 to reduce ROC emissions by approximately 80-percent.
- A program to keep well cellars and emergency pits pumped out consistent with the requirements of APCD Rule 344.

1.5 Offsets/Emission Reduction Credit Overview

Project ROC emissions increases are currently required to be offset based on APCD Rule 802 offset thresholds. Offsets were initially required for ROC, NAROC (non-alkane ROC) and NO_x. Section 7 discusses the offset requirements for the Point Pedernales Project..

1.6 Part 70 Operating Permit Overview

- 1.6.1 Federally-enforceable Requirements: All federally-enforceable requirements are listed in 40 CFR Part 70.2 (*Definitions*) under “applicable requirements”. These include all SIP-approved APCD Rules, all conditions in the APCD-issued Authority to Construct permits, and all conditions applicable to major sources under federally promulgated rules and regulations. All these requirements are enforceable by the public under CAAA. (*See Tables 3.1 and 3.2 for a list of federally-enforceable requirements*)
- 1.6.2 Insignificant Emissions Units: Insignificant emission units are defined under APCD Rule 1301 as any regulated air pollutant emitted from the unit, excluding HAPs, that are less than 2 tons per year based on the unit’s potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit’s potential to emit. Insignificant activities were listed in the Part 70 permit renewal application with supporting calculations. Applicable requirements may apply to insignificant units.
- 1.6.3 Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement, or (2) included in the 29-category source list specified in 40 CFR 51.166 or 52.21. The federal PTE does include all emissions from any insignificant emissions units. (*See Section 5.4 for the federal PTE for this source*)
- 1.6.4 Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally-enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request from the source and its detailed review by the APCD. Permit shields cannot be indiscriminately granted with respect to all federal requirements. PXP has not made a request for a permit shield.
- 1.6.5 Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70

permit application and if such operations are allowed under federally-enforceable rules. PXP made no request for permitted alternative operating scenarios.

- 1.6.6 Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally-enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application; and, be re-submitted annually on the anniversary date of the permit or on a more frequent schedule specified in the permit. A “responsible official” of the owner/operator company signs each certification whose name and address is listed prominently in the Part 70 permit. (*see Section 1.6.9 below*)
- 1.6.7 Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data.
- 1.6.8 Hazardous Air Pollutants (HAPs): Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability. (*see Sections 4.10 and 5.5*)
- 1.6.9 Responsible Official: The designated responsible official is:

Mr. Thomas Goeres, Operations Manager
Plains Exploration & Production Company
201 South Broadway
Orcutt, California 93455

2.0 Process Description

2.1 Process Summary

- 2.1.1 Production. Oil, water, and gas are produced from two wells on the Murphy Brothers Lease. Each well is equipped with a cellar that measures approximately six feet by six feet. Electric motors and/or internal combustion engines (PTO 9971) provide power to the pumping units.
- 2.1.2 Gas, Oil, and Water Production. Oil and gas production is piped to the La Purisima lease for processing.

2.2 Support Systems

There are no additional support systems on the Murphy Brothers Lease.

2.3 Maintenance/Degreasing Activities

- 2.3.1 Paints and Coatings. Intermittent surface coating operations are conducted throughout the facility for occasional structural and equipment maintenance needs, including architectural coating. Normally only touch-up and equipment labeling or tagging is performed. All architectural

coatings used are in compliance with APCD Rule 323, as verified through the rule-required recordkeeping.

- 2.3.2 Solvent Usage. Solvents not used for surface coating thinning may be used on the Murphy Brothers Lease for daily operations. Usage includes cold solvent degreasing and wipe cleaning with rags.

2.4 Planned Process Turnarounds

Maintenance of critical components is carried out according to the requirements of Rule 331 (*Fugitive Emissions Inspection and Maintenance*) during turnarounds. PXP has not listed any emissions from planned process turnarounds that should be permitted.

2.5 Other Processes

- 2.5.1 Pits and Sumps. None

- 2.5.2 Unplanned Activities/Emissions. PXP does not anticipate or foresee any circumstances that would require special equipment use and result in excess emissions.

2.6 Detailed Process Equipment Listing

Refer to Attachment 10.5 for a complete listing of all permitted equipment.

3.0 Regulatory Review

This Section identifies the federal, state and local rules and regulations applicable to the Murphy Brothers Lease.

3.1 Rule Exemptions Claimed



APCD Rule 331 (*Fugitive Emission Inspection and Maintenance*): The following exemptions were applied for in PXP's Inspection and Maintenance Plan and approved by the APCD:

- Section B.2.b for components buried below the ground.

3.2 Compliance with Applicable Federal Rules and Regulations

- 3.2.1 40 CFR Parts 51/52 (*New Source Review (Nonattainment Area Review and Prevention of Significant Deterioration)*): The Murphy Brothers Lease was constructed and permitted prior to the applicability of these regulations. All modifications are subject to the APCD's New Source Review regulation. Compliance with the regulation assures compliance with 40 CFR 51/52.
- 3.2.2 40 CFR Part 60 (*New Source Performance Standards*): This facility is not currently subject to the provisions of this Subpart.
- 3.2.3 40 CFR Part 61 (*NESHAP*): This facility is not currently subject to the provisions of this Subpart.
- 3.2.4 40 CFR Part 63 (*MACT*): On June 17, 1999, EPA promulgated Subpart HH, a National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage. PXP submitted information in October

2000 indicating this facility qualified for the “black oil” exemption per section 63.760(e)(1) of the subpart. The APCD approved this exemption on June 5, 2002. Thus, only the recordkeeping requirements specified in condition 9.B.11 apply.

- 3.2.5 40 CFR Part 64 {Compliance Assurance Monitoring}: This rule became effective on April 22, 1998 and affects emission units at the source subject to a federally enforceable emission limit or standard that use a control device to comply with the emission standard, and either pre-control or post-control emissions exceed the Part 70 source emission thresholds. Compliance with this rule was evaluated and it was determined that no emission units at this facility are subject to CAM.
- 3.2.6 Subpart ZZZZ {NESHAP - Stationary Internal Combustion Engines}: Based on the MACT, there are no emission units associated with the LOF leases.
- 3.2.7 Subpart DDDDD {Industrial/Commercial/Institutional Boilers and Process Heaters}: Based on the MACT, there are no emission units associated with the LOF leases.
- 3.2.8 Subpart EEEE {Organic Liquid Distribution}: Based on the MACT, there are no emission units associated with the LOF leases.
- 3.2.9 40 CFR Part 70 {Operating Permits}: This Subpart is applicable to the Murphy Brothers Lease. Table 3.1 lists the federally-enforceable APCD promulgated rules that are “generic” and apply to the Murphy Brothers Lease. Table 3.2 lists the federally-enforceable APCD promulgated rules that are “unit-specific” that apply to the Murphy Brothers Lease. These tables are based on data available from the APCD’s administrative files and PXP’s Part 70 permit application. Table 3.4 includes the adoption dates of these rules.

In its Part 70 permit application (Form I), PXP certified compliance with all existing APCD rules and permit conditions. This certification is also required of PXP semi-annually. Issuance of this permit and compliance with all its terms and conditions will ensure that PXP complies with the provisions of all applicable Subparts.

3.3 Compliance with Applicable State Rules and Regulations

- 3.3.1 Division 26: Air Resources {California Health & Safety Code}: The administrative provisions of the Health & Safety Code apply to this facility and will be enforced by the APCD. These provisions are APCD-enforceable only.
- 3.3.2 California Administrative Code Title 17: These sections specify the standards by which abrasive blasting activities are governed throughout the state. All abrasive blasting activities at the Murphy Brothers Lease are required to conform to these standards. Compliance will be assessed through onsite inspections. These standards are APCD-enforceable only. However, CAC Title 17 does not preempt enforcement of any SIP-approved rule that may be applicable to abrasive blasting activities.

3.4 Compliance with Applicable Local Rules and Regulations

- 3.4.1 Applicability Tables: In addition to Tables 3.1 and 3.2, Table 3.3 lists the non-federally-enforceable APCD promulgated rules that apply to the Murphy Brothers Lease. Table 3.4 lists the adoption date of all rules applicable to this permit at the date of this permit's issuance.
- 3.4.2 Rules Requiring Further Discussion: Since the previous permit renewal, facility inspections were conducted on July 9, 2009, December 11, 2007 and March 1, 2007. The inspector reported that the facility was in compliance with all APCD rules and PTO conditions at the time of these inspections. This section provides a more detailed discussion regarding the applicability and compliance of certain rules.

APCD Rule 210 - Fees: Pursuant to Rule 201.G, APCD permits are reevaluated every three years. This includes the re-issuance of the underlying permit to operate. Also included are the PTO fees. The fees for this facility are based on APCD Rule 210, Fee Schedule A. Attachment 10.3 presents the fee calculations for the reevaluated permit.

Rule 301 - Circumvention: This rule prohibits the concealment of any activity that would otherwise constitute a violation of Division 26 (Air Resources) of the California H&SC and the SBCAPCD rules and regulations. To the best of the APCD's knowledge, PXP is operating in compliance with this rule.

Rule 303 - Nuisance: This rule prohibits the operator from causing a public nuisance due to the discharge of air contaminants. Based on the source's location, the potential for public nuisance is small.

Rule 309 - Specific Contaminants: Under Section "A", no source may discharge sulfur compounds and combustion contaminants (particulate matter) in excess of 0.2-percent as SO₂ (by volume) and 0.3 gr/scf (at 12% CO₂) respectively.

Rule 310 - Odorous Organic Compounds: This rule prohibits the discharge of H₂S and organic sulfides that result in a ground level impact beyond the property boundary in excess of either 0.06 ppm_v averaged over 3 minutes and 0.03 ppm_v averaged over 1 hour. No measured data exists to confirm compliance with this rule.

Rule 317 - Organic Solvents: This rule sets specific prohibitions against the discharge of emissions of both photochemically and non-photochemically reactive organic solvents (40 lb/day and 3,000 lb/day respectively). Solvents may be used on the lease during normal operations for degreasing by wipe cleaning and for use in paints and coatings in maintenance operations. There is the potential to exceed the limits under Section B.2 during significant surface coating activities. PXP is required to maintain records to ensure compliance with this rule.

Rule 321 - Control of Degreasing Operations: This rule sets equipment and operational standards for degreasers using organic solvents. PXP asserts that there are no degreasers on the lease subject to this rule.

Rule 322 - Metal Surface Coating Thinner and Reducer: This rule prohibits the use of photochemically reactive solvents for use as thinners or reducers in metal surface coatings. PXP

will be required to maintain records during maintenance operations to ensure compliance with this rule.

Rule 323 - Architectural Coatings: This rule sets standards for the application of surface coatings. With certain exceptions, this rule limits the ROC content of architectural coatings to 250 grams/liter. The primary coatings utilized at this facility are Industrial Maintenance Coatings that have a limit of 250 gram ROC per liter of coating, as applied.

Rule 324 - Disposal and Evaporation of Solvents: This rule prohibits any source from disposing more than one and a half gallons of any photochemically reactive solvent per day by means that will allow the evaporation of the solvent into the atmosphere. PXP is required to maintain records to ensure compliance with this rule.

Rule 325 - Crude Oil Production and Separation: This rule, adopted January 25, 1994, applies to equipment used in the production, gathering, storage, processing and separation of crude oil and gas prior to custody transfer. The primary requirements of this rule are under Sections D and E. Section D requires the use of vapor recovery systems on all tanks and vessels, including wastewater tanks, oil/water separators and sumps. Section E requires that all produced gas be controlled at all times, except for wells undergoing routine maintenance. Compliance with Section E is met by directing all produced gas to a sales compressor, injection well or to a flare relief system. There are no tanks on the Murphy Brothers Lease.

Rule 330 - Surface Coating of Metal Parts and Products: This rule sets standards for many types of coatings applied to metal parts and products. In addition to the ROC standards, this rule sets operating standards for application of the coatings, labeling and recordkeeping. Compliance with this rule will be demonstrated through inspections and recordkeeping.

Rule 331 - Fugitive Emissions Inspection and Maintenance: This rule applies to components in liquid and gaseous hydrocarbon service at oil and gas production fields. PXP has submitted a Fugitive I&M Plan and received APCD approval of this Plan on March 11, 1993. This plan was revised and approved in May 2007. Ongoing compliance with the many provisions of this rule will be assessed via inspection by APCD personnel using an organic vapor analyzer and through analysis of operator records. The Murphy Brothers Lease does not perform any routine venting of hydrocarbons to the atmosphere.

Rule 343 - Petroleum Storage Tank Degassing: This rule applies to the degassing of any above-ground tank, reservoir or other container of more than 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 2.6 psia or between 20,000 gallons and 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 3.9 psia. There are no tanks on the Murphy Brothers Lease.

APCD Rule 344 - Sumps, Pits and Well Cellars: Rule 344 requires controls on sumps and pits subject to the rule and an inspection and maintenance plan for well cellars. PXP has instituted a program to monitor well cellars and pump them out if the thickness of the oil/petroleum products exceeds 2-inches or the cellar is over 50-percent full of any liquid. Compliance is determined through required recordkeeping and APCD inspection.

Rule 353 - Adhesives And Sealants: This rule is applicable to any person who supplies, sells, offers for sale, manufactures, solicits the application of, or uses adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless otherwise specifically exempted by this rule. Compliance with this rule will be demonstrated through inspections and recordkeeping.

Rule 505 - Breakdown Conditions: This rule describes the procedures that PXP must follow when a breakdown condition occurs to any emissions unit associated with the Murphy Brothers Lease. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in the APCD Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

- a. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;
- b. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;
- c. Is not the result of improper maintenance;
- d. Does not constitute a nuisance as defined in Section 41700 of the Health and Safety Code;
- e. Is not a recurrent breakdown of the same equipment.

3.5 Compliance History

This section contains a summary of the compliance history for this facility and was obtained from documentation contained in the APCD's administrative file.

- 3.5.1 Variances: There have been no variances issued to this facility since the prior permit renewal
- 3.5.2 Violations: There have no enforcement actions issued to the this facility since the prior permit renewal.
- 3.5.3 Significant Historical Hearing Board Actions: There are no significant historical Hearing Board actions.

Table 3.1 - Generic Federally-Enforceable APCD Rules

Generic Requirements	Affected Emission Units	Basis for Applicability
<u>RULE 101</u> : Compliance by Existing Installations	All emission units	Emission of pollutants
<u>RULE 102</u> : Definitions	All emission units	Emission of pollutants
<u>RULE 103</u> : Severability	All emission units	Emission of pollutants
<u>RULE 201</u> : Permits Required	All emission units	Emission of pollutants
<u>RULE 202</u> : Exemptions to Rule 201	Applicable emission units, as listed in form 1302-H of the Part 70 application.	Insignificant activities/emissions, per size/rating/function
<u>RULE 203</u> : Transfer	All emission units	Change of ownership
<u>RULE 204</u> : Applications	All emission units	Addition of new equipment of modification to existing equipment.
<u>RULE 205</u> : Standards for Granting Permits	All emission units	Emission of pollutants
<u>RULE 206</u> : Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules
<u>RULE 207</u> : Denial of Applications	All emission units	Applicability of relevant Rules
<u>RULE 208</u> : Action on Applications – Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment of modification to existing equipment.
<u>RULE 212</u> : Emission Statements	All emission units	Administrative

Table 3.1 - Continued

Generic Requirements	Affected Emission Units	Basis for Applicability
<u>RULE 301</u> : Circumvention	All emission units	Any pollutant emission
<u>RULE 302</u> : Visible Emissions	All emission units	Particulate matter emissions
<u>RULE 303</u> : Nuisance	All emission units	Emissions that can injure, damage or offend.
<u>RULE 304</u> : Particular Matter - Northern Zone	Each PM Source	Emissions of PM in effluent gas
<u>RULE 309</u> : Specific Contaminants	All emission units	Combustn.contaminant emission

<u>RULE 311</u> : Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur
<u>RULE 317</u> : Organic Solvents	Emission units using solvents	Solvent used in process operations.
<u>RULE 321</u> : Solvent Cleaning Operations	Emission units using solvents.	Solvent used in process operations.
<u>RULE 322</u> : Metal Surface Coating Thinner and Reducer	Emission units using solvents.	Solvent used in process operations.
<u>RULE 323</u> : Architectural Coatings	Paints used in maintenance and surface coating activities.	Application of architectural coatings.
<u>RULE 324</u> : Disposal and Evaporation of Solvents	Emission units using solvents.	Solvent used in process operations.
<u>RULE 353</u> : Adhesives and Sealants	Emission units using adhesives and solvents.	Adhesives and sealants used in process operations.
<u>RULE 505.A, B1, D</u> : Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.
<u>RULE 603</u> : Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	PXP Lompoc is a major source.
<u>REGULATION VIII</u> : New Source Review	All emission units	Addition of new equipment of modification to existing equipment. Applications to generate ERC Certificates.
<u>REGULATION XIII (RULES 1301-1305)</u> : Part 70 Operating Permits	All emission units	PXP Lompoc is a major source.

Table 3.2 - Unit-Specific Federally-Enforceable APCD Rules

Unit-Specific Requirements	Affected Emission Units	Basis for Applicability
<u>RULE 325</u> : Crude Oil Production and Separation	Wash tank, crude storage tanks, wastewater tanks	Pre-custody transfer oil service tanks with capacities exceeding exemption limits.
<u>RULE 331</u> : Fugitive Emissions Inspection & Maintenance	All components (valves, flanges, seals, compressors and pumps) used to handle oil and gas:	Components emit fugitive ROCs. ID# 6-1
<u>RULE 343</u> : Petroleum Storage Tank Degassing	Wash tank, crude storage tanks, wastewater tanks	Tanks used in storage of organic liquids with vapor pressure > 2.6 psia.
<u>RULE 344</u> : Petroleum Wells, Sumps	Well cellars, sump, wastewater	Each well at this facility is equipped with a well cellar.

and Cellars	pits	Compliance with this rule provides a 70% reduction in well cellar ROC emissions. This rule also provides exemptions to sumps at this facility.
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Table 3.3 - Non-Federally-Enforceable APCD Rules

Requirement	Affected Emission Units	Basis for Applicability
<u>RULE 210</u> : Fees	All emission units	Administrative
<u>RULES 310</u> : Odorous Organics	All emission units	Emissions of Organic Sulfides
<u>RULES 501-504</u> : Variance Rules	All emission units	Administrative
<u>RULE 505.B2, B3, C, E, F, G</u> : Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.
<u>RULES 506-519</u> : Variance Rules	All emission units	Administrative

Table 3.4 – Adoption Dates of APCD Rules Applicable at Issuance of Permit

Rule No.	Rule Name	Adoption Date
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	April 17, 1997
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	April 17, 1997
Rule 202	Exemptions to Rule 201	April 17, 1997
Rule 203	Transfer	April 17, 1997
Rule 204	Applications	April 17, 1997
Rule 205	Standards for Granting Permits	April 17, 1997
Rule 206	Conditional Approval of Authority to Construct or Permit to Operate	October 15, 1991
Rule 208	Action on Applications - Time Limits	April 17, 1997
Rule 212	Emission Statements	October 20, 1992
Rule 301	Circumvention	October 23, 1978

Rule 302	Visible Emissions	June 1981
Rule 303	Nuisance	October 23, 1978
Rule 304	Particulate Matter – Northern Zone	October 23, 2006
Rule 305	Particulate Matter Concentration – Southern Zone	October 23, 1978
Rule 309	Specific Contaminants	October 23, 1978
Rule 310	Odorous Organic Sulfides	October 23, 1978
Rule 311	Sulfur Content of Fuels	October 23, 1978
Rule 317	Organic Solvents	October 23, 1978
Rule 321	Solvent Cleaning Operations	September 18, 1997
Rule 322	Metal Surface Coating Thinner and Reducer	October 23, 1978
Rule 323	Architectural Coatings	July 18, 1996
Rule 324	Disposal and Evaporation of Solvents	October 23, 1978
Rule 325	Crude Oil Production and Separation	January 25, 1994
Rule 326	Storage of Reactive Organic Compound Liquids	December 14, 1993
Rule 331	Fugitive Emissions Inspection and Maintenance	December 10, 1991
Rule 333	Control of Emissions from Reciprocating Internal Combustion Engines	April 17, 1997
Rule 342	Control of Oxides of Nitrogen (NO _x) from Boilers, Steam Generators and Process Heaters	April 17, 1997
Rule 343	Petroleum Storage Tank Degassing	December 14, 1993
Rule 344	Petroleum Sumps, Pits and Well Cellars	November 10, 1994
Rule 346	Loading of Organic Liquid Cargo Vessels	October 13, 1992
Rule 353	Adhesives and Sealants	August 19, 1999
Rule 359	Flares and Thermal Oxidizers	June 28, 1994
Rule 360	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers	October 17, 2002
Rule 361	Small Boilers, Steam Generators and Process Heaters	January 17, 2008
Rule 505	Breakdown Conditions (Section A, B1 and D)	October 23, 1978
Rule 603	Emergency Episode Plans	June 15, 1981
Rule 801	New Source Review	April 17, 1997

Rule 802	Nonattainment Review	April 17, 1997
Rule 803	Prevention of Significant Deterioration	April 17, 1997
Rule 804	Emission Offsets	April 17, 1997
Rule 805	Air Quality Impact and Modeling	April 17, 1997
Rule 806	Emission Reduction Credits	April 17, 1997
Rule 901	New Source Performance Standards (NSPS)	May 16, 1996
Rule 1001	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	October 23, 1993
Rule 1301	General Information	September 18, 1997
Rule 1302	Permit Application	November 9, 1993

Table 3.4 - Continued

Rule No.	Rule Name	Adoption Date
Rule 1303	Permits	November 9, 1993
Rule 1304	Issuance, Renewal, Modification and Reopening	November 9, 1993
Rule 1305	Enforcement	November 9, 1993

4.0 Engineering Analysis

4.1 General

The engineering analyses performed for this permit were limited to the review of:

- facility process flow diagrams
- emission factors and calculation methods for each emissions unit
- emission control equipment (including RACT, BACT, NSPS, NESHAP, MACT)
- emission source testing, sampling, CEMS, CAM
- process monitors needed to ensure compliance

Unless noted otherwise, default ROC/THC reactivity profiles from the APCD's document titled "*VOC/ROC Emission Factors and Reactivities for Common Source Types*" dated July 13, 1998 (ver 1.1) was used to determine non-methane, non-ethane fraction of THC.

4.2 Stationary Combustion Sources

There are no stationary combustion sources at this facility.

4.3 Fugitive Hydrocarbon Sources

Emissions of reactive organic compounds from piping components (e.g., valves and connections), pumps, compressors and pressure relief devices have been quantified using

emission factors pursuant to APCD P&P 6100.060.1996 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for Revised ROC Definition*).

An emission control efficiency of 80-percent is credited to all components due to the implementation of an APCD-approved I&M program for leak detection and repair consistent with Rule 331 requirements. Ongoing compliance is determined in the field by inspection with an organic vapor analyzer and verification of operator records.

4.4 Tanks/Vessels/Sumps/Separators

- 4.4.1 Pits, Sumps and Well Cellars. The Murphy Brothers Lease is equipped with two well cellars. Well cellar emissions are assumed to be reduced 70-percent for maintaining the cellars per the requirements of Rule 344. The emission estimates are based APCD P&P 6100.060 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for Revised ROC Definition*). The calculation is:

$$ER = [(EF \times SAREA \div 24) \times (1 - CE) \times (HPP)]$$

where:

E = emission rate (lb/period)
EF = ROC emission factor (lb/ft²-day)
SAREA = unit surface area (ft²)
CE = control efficiency
HPP = operating hours per time period (hrs/period)

Attachment 10.2 contains an emission spreadsheet showing the detailed calculations for the well cellars.

4.5 Other Emission Sources

- 4.5.1 General Solvent Cleaning/Degreasing. Solvent usage (not used as thinners for surface coating) may occur at the facility as part of normal daily operations. The usage includes cold solvent degreasing. Mass balance emission calculations are used assuming all the solvent used evaporates to the atmosphere. The solvent limits in Table 5.2 can not be exceeded (excluding solvent activities that qualify for the maintenance exemption under Rule 202).
- 4.5.2 Surface Coating. Surface coating operations typically include normal touch up activities. Entire facility painting programs may also be performed. Emissions are determined based on mass balance calculations assuming all solvents evaporate into the atmosphere. Emissions of PM/PM₁₀ from paint overspray are not calculated due to the lack of established calculation techniques.
- 4.5.3 Abrasive Blasting. Abrasive blasting with CARB certified sands may be performed as a preparation step prior to surface coating. The engines used to power the compressor may be electric or diesel fired. Any ICE used for this purpose will require a permit unless it qualifies for exemption. Particulate matter is emitted during this process. A general emission factor of 0.01 pound PM per pound of abrasive is used (SCAQMD - Permit Processing Manual, 1989) to

estimate emissions of PM and PM₁₀ when needed for compliance verifications. A PM/PM₁₀ ratio of 1.0 is assumed.

4.6 Vapor Recovery/Control Systems

Gas from the wellheads and the gas/liquid separator are gathered and piped to the La Purisima Lease.

4.7 BACT/NSPS/NESHAP/MACT

To date, this facility has not triggered Best Available Control Technology (BACT), New Source Performance Standards (NSPS) National Emission Standards For Hazardous Air Pollutants (NESHAP) or Maximum Available Control Technology (MACT).

A National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage was promulgated on June 17, 1999. As described in section 3.2.4, this facility qualified for the black oil exemption and is required only to maintain the records specified in permit condition 9.B.11.

4.8 CEMS/Process Monitoring/CAM

4.8.1 CEMS: There are no CEMS at this facility.

4.8.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the use of process monitoring systems. Examples of these monitors include: engine hour meters, fuel usage meters, water injection mass flow meters, flare gas flow meters and hydrogen sulfide analyzers. It is important that they be well maintained and calibrated to ensure that the required accuracy and precision of the devices are within specifications. This permit requires no specific monitors.

4.8.3 CAM: There are no equipment units at this facility subject to the USEPA's Compliance Assurance Monitoring Assurance (CAM) rule.

4.9 Source Testing/Sampling

No source testing or sampling is required at this facility.

4.10 Part 70 Engineering Review: Hazardous Air Pollutant Emissions

Hazardous air pollutant emissions from the different categories of emission units at the Murphy Brothers Lease are based on emission factors listed in USEPA AP-42. Where no emission factors are available, the HAP fractions from the ARB VOC Speciation Manual – Second Edition (August 1991) are used in conjunction with the ROC emission factor for the equipment item in question.

The HAP emission factors are listed in Table 5.5-1. Potential HAP emissions from the facility are computed and listed in Table 5.5-2.

5.0 Emissions

5.1 General

The facility was analyzed to determine all air-related emission sources. Emissions calculations are divided into "permitted" and "exempt" categories. APCD Rule 202 determines permit-exempt equipment. The permitted emissions for each emissions unit is based on the equipment's potential-to-emit (as defined by Rule 102).

Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 provides the federal potential to emit calculation using the definition of potential to emit used in Rule 1301. Section 5.5 provides the estimated HAP emissions from the facility. Section 5.6 provides the estimated emissions from permit-exempt equipment and also serves as the Part 70 list of insignificant emissions. Section 5.7 provides the net emissions increase calculation for the facility and the stationary source. The APCD uses a computer database to accurately track the emissions from a facility. Attachment 10.4 contains the APCD's documentation for the information entered into that database.

5.2 Permitted Emission Limits - Emission Units

Each emissions unit associated with the facility was analyzed to determine the potential-to-emit for the following pollutants:

- ➔ Nitrogen Oxides (NO_x)³
- ➔ Reactive Organic Compounds (ROC)
- ➔ Carbon Monoxide (CO)
- ➔ Sulfur Oxides (SO_x)⁴
- ➔ Particulate Matter (PM)⁵
- ➔ Particulate Matter smaller than 10 microns (PM₁₀)

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation methodologies and emission factors used. The reference documentation for the specific emission calculations, as well as detailed calculation spreadsheets, may be found in Section 4 and Attachments 10.1 and 10.2 respectively. Table 5.1-1 provides the basic operating characteristics. Table 5.1-2 provides the specific emission factors. Tables 5.1-3 and 5.1-4 show the permitted short-term and permitted long-term emissions for each unit or operation. In the table, the last column indicates whether the emission limits are federally-enforceable. Those emissions limits that are federally-enforceable are indicated by the symbol "FE". Those emissions limits that are APCD-only enforceable are indicated by the symbol "A".

³ Calculated and reported as nitrogen dioxide (NO₂)

⁴ Calculated and reported as sulfur dioxide (SO₂)

⁵ Calculated and reported as all particulate matter smaller than 100 µm

5.3 Permitted Emission Limits - Facility Totals

The total potential-to-emit for all emission units associated with this facility were analyzed. This analysis looked at the reasonable worst-case operating scenarios for each operating period. The equipment operating in each of the scenarios are presented below. Unless otherwise specified, the operating characteristics defined in Table 5.1-1 for each emission unit are assumed. Table 5.2 shows the total permitted emissions for the facility.

5.4 Part 70: Federal Potential to Emit for the Facility

Table 5.3 lists the federal Part 70 potential to emit. Coating emissions, although exempt from permit requirements, are included in the federal potential to emit calculation. Fugitive emissions from the Murphy Brothers Lease emissions units are not counted in the federal definition of potential to emit. However, fugitives are counted in the Federal PTE if the facility is subject to any applicable NSPS or NESHAP requirement.

5.5 Part 70: Hazardous Air Pollutant Emissions for the Facility

Hazardous air pollutants (HAP) emission factors, for each type of emissions unit, are listed in Table 5.4-1. Potential HAP emissions, based on the worst-case scenario, are shown in Table 5.4-2.

5.6 APCD Exempt Emission Sources

Per Rule 202, maintenance activities such as painting and surface coating qualify for a permit exemption, but may contribute to facility emissions.

5.7 Net Emissions Increase Calculation

The net emissions increase for the Murphy Brothers Lease since November 15, 1990 (the day the federal Clean Air Act Amendments were adopted in 1990) is zero. For all pollutants the stationary source NEI is shown in the table below:

Stationary Source Net Emission Increase, 1990 Baseline

Term	Active Permits	ROC	NOx	Sox	CO	PM ₁₀	PM
P1	PTO 8827 ¹ (08/21/92)						
	lb/day	85.44	--	--	--	--	--
	TPY	15.61	--	--	--	--	--
P1	ATC/PTO 10111 (08/26/99) Jesus Maria "A" (LOF)						
	lb/day	2.75	--	--	--	--	--
	TPY	0.50					
P1	ATC 9200 ^{2,3} (06/08/95)						
	lb/day	9.26	--	--	--	--	--
	TPY	1.69	--	--	--	--	--
P1	Lompoc ICEs						
	lb/day	0.24	5.04	0.48	1.20	--	--
	TPY	0.05	0.96	0.07	0.21	--	--
P1	ATC 9522-01 ² (07/29/97)						
	lb/day	0.33	--	--	--	--	--
	TPY	0.06	--	--	--	--	--
P1	ATC 9522-04 ⁴ (02/03/99)						
	lb/day	40.33	--	--	--	--	--
	TPY	7.36	--	--	--	--	--
P1	PTO 9522 ⁵						
	lb/day	1.57	20.86	9.08	12.34	3.10	3.10
	TPY	0.31	2.64	0.64	1.98	0.53	1.98
P1	ATC/PTO 11435 (03/30/05)						
	lb/day	--		--	--	--	--
	TPY	--	1.61	--	--	--	--
P1	ATC 12006 (03/31/06)						
	lb/day	0.01	0.07	0.11	0.09	0.01	0.01
	TPY	--	0.01	0.02	0.02	--	--
P1	ATC/PTO 12683 (9/25/08)						
	lb/day	4.70	--	--	--	--	--
	TPY	0.88	--	--	--	--	--
P1	ATC 13015 (2/03/09)						
	lb/day	0.045	--	--	--	--	--
	TPY	0.008	--	--	--	--	--
	ATC 13044 (03/06/09)						
	lb/day	0.0882	--	--	--	--	--
	TPY	0.016	--	--	--	--	--
NEI	Total						
	lb/day	144.76	25.97	9.67	13.63	3.11	3.11
	TPY	26.48	5.22	0.73	2.21	0.53	1.98

Table Notes:

¹PTO 6708-05 documents current HS&P non-methane/non-ethane fugitive NEI emissions of 158.23 lb/day and 28.88 TPY. These figures include fugitive emission increases permitted in PTO 8827 issued 8/21/92 which are the only NEI emissions from of this total attributable to FNEI90 emissions. A APCD increment fee modeling letter dated 2/15/91 is

the only available documentation from which the actual increase in emissions associated with PTO 8827 can be determined. This letter indicates the PTO 8827 fugitives resulted in a total HS&P fugitive emission rate increase from 0.49 g/sec (17.01 TPY) to 1.07 g/sec (37.05 TPY). The 0.58 g/sec increase represents 54 percent of the total, therefore, for purposes of estimating the current FNEI90 associated with PTO 8827, it was assumed that 54 percent of the total HS&P fugitive emissions listed in PTO 6708-05 represent the PTO 8827 FNE90 increase.

² All fugitive emission components for ATCs 9200 and 9522-01 were incorporated into the correlation equation (CE) emission calculation provided in ATC 9522-04, thus, ATC 9522-04 superseded these ATCs. However, this was done solely for the purpose of consistency, i.e., so that emissions from all gas plant components are based on the CEs to allow for more uniform I&M procedures and compliance determinations. As such, the original project emissions based on the Fugitive Component Count methodology, documented in the original ATCs are the actual NEI increases resulting from these projects rather than the recalculated values based on the CEs. The NEI values for these projects in the above table are taken from the original permits.

³ ATC 9200 lists 12.96 lbs/day and 2.38 tpy. These values were adjusted for ethane as follows: a Tecolote factor of 0.0304 lb/day/comp was used for oil components and APCD Policy and Procedure 6100.061.1996 for gas components. These revised values are documented in PTO 6708-05 (page 1 and Table 10.6-2) and are shown above.

⁴ ATC 9522-04 was issued for the purpose of recalculating the fugitive emissions from the gas plant using the Correlation Equations. This recalculated emission rate superseded the original fugitive emission rate as documented in ATC 9522 (based on the Fugitive Component Count methodology). ATC 9522-04 also included the fugitive emission components from ATCs 9200 and ATC 9522-01, however these recalculated emissions, for purposes of NEI, did not supersede the original emission rates (see note 2 above). Therefore, the emission rate shown in the above table for ATC 9522-04 is the recalculated emission rate for ATC 9522 only and was taken from Table 9.1 of ATC 9522-04.

⁵ PTO 9522 supersedes ATC 9522-04 however the fugitive emission totals shown in Table 6 of PTO 9522 include the recalculated fugitive emissions from ATCs 9200 and 9522-01. The actual NEI fugitive emission increase from PTO 9522 is that shown for ATC 9522-04 in the above table. As such, the NEI values for PTO 9522 in the above table include only the thermal oxidizer and flare (ATC 9522-03) emissions from PTO 9522 Table 6.

ATC/PTO 11435: Emission limit increases for the supply boat.

ATC 12006: Flare pilot fuel increase

ATC/PTO 12683: Installation of a FWKO at Platform Irene.

ATC 13015: Relocation of pig trap to LOGP.

ATC 13044: Replacement of three gas coolers at Platform Irene.

Table 5.1-1
PXP Murphy Brothers Lease: Permit to Operate 8070
Operating Equipment Description
Page 20 of 40

Equipment Category	Description	APCD Device No.	Device Specifications			Usage Data		Maximum Operating Schedule						References
			Feed	Parameter	Size	Units	Capacity	Units	Load	hr	day	qtr	year	
Pits and Sumps	Well Cellars	3356	O/W	Primary	72 ft ²	--	--	--	1.0	1.0	24	2,190	8,760	A
Fugitive Components	Valves, Connections, etc	3355	--	--	2 wells	--	--	--	1.0	1.0	24	2,190	8,760	B
	Pumps/Compressors/Wellheads	3354	--	--	2 wells	--	--	--	1.0	1.0	24	2,190	8,760	

Table 5.1-2
PXP Murphy Brothers Lease: Permit to Operate 8070
Equipment Emission Factors
Page 21 of 40

Equipment Category	Description	APCD Device No.	Emission Factors						Units
			NO _x	ROC	CO	SO _x	PM	PM ₁₀	
Pits and Sumps	Well Cellars	3356	--	0.0282	--	--	--	--	lb/ft ² -day
Fugitive Components	Valves, Connections, etc	3355	--	--	--	--	--	--	--
	Pumps/Compressors/Wellheads	3354	--	--	--	--	--	--	--

Table 5.1-3
PXP Murphy Brothers Lease: Permit to Operate 8070
Hourly and Daily Emissions
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Equipment Category	Description	APCD Device No.	NO _x		ROC		CO		SO _x		PM		PM ₁₀		Enforceability	
			lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	Type	Basis
Pits and Sumps	Well Cellars	3356	--	--	0.08	2.03	--	--	--	--	--	--	--	--	A	
Fugitive Components	Valves, Connections, etc	3355	--	--	0.11	2.66	--	--	--	--	--	--	--	--	A	
	Pumps/Compressors/Wellheads	3354	--	--	0.00	0.03	--	--	--	--	--	--	--	--	A	

Notes:

A = APCD enforceable emission limit.

FE = Federally enforceable emission limit.

Table 5.1-4
PXP Murphy Brothers Lease: Permit to Operate 8070
Quarterly and Annual Emissions
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Equipment Category	Description	APCD Device No.	NO _x		ROC		CO		SO _x		PM		PM ₁₀		Enforceability	
			TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	Type	Basis
Pits and Sumps	Well Cellars	3356	--	--	0.09	0.37	--	--	--	--	--	--	--	--	A	--
Fugitive Components	Valves, Connections, etc	3355	--	--	0.12	0.49	--	--	--	--	--	--	--	--	A	--
	Pumps/Compressors/Wellheads	3354	--	--	0.00	0.01	--	--	--	--	--	--	--	--	A	--

Notes:

A = APCD enforceable emission limit.

FE = Federally enforceable emission limit.

Table 5.2
PXP Murphy Brothers Lease: Permit to Operate 8070
Total Permitted Facility Emissions
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A. HOURLY (lb/hr)

Equipment Category	NO _x	ROC	CO	SO _x	PM	PM ₁₀
Pits and Sumps	--	0.08	--	--	--	--
Fugitive Components	--	0.11	--	--	--	--
	0.00	0.20	0.00	0.00	0.00	0.00

B. DAILY (lb/day)

Equipment Category	NO _x	ROC	CO	SO _x	PM	PM ₁₀
Pits and Sumps	--	2.03	--	--	--	--
Fugitive Components	--	2.69	--	--	--	--
	0.00	4.72	0.00	0.00	0.00	0.00

C. QUARTERLY (tpq)

Equipment Category	NO _x	ROC	CO	SO _x	PM	PM ₁₀
Pits and Sumps	--	0.09	--	--	--	--
Fugitive Components	--	0.12	--	--	--	--
	0.00	0.22	0.00	0.00	0.00	0.00

D. ANNUAL (tpy)

Equipment Category	NO _x	ROC	CO	SO _x	PM	PM ₁₀
Pits and Sumps	--	0.37	--	--	--	--
Fugitive Components	--	0.49	--	--	--	--
	0.00	0.86	0.00	0.00	0.00	0.00

Table 5.3
PXP Murphy Brothers Lease: Permit to Operate 8070
Federal Potential To Emit
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A. PEAK HOURLY (lb/hr)

Equipment Category	NO _x	ROC	CO	SO _x	PM	PM ₁₀
Pits and Sumps	--	0.08	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	0.09	0.00	0.00	0.00	0.00

B. PEAK DAILY (lb/day)

Equipment Category	NO _x	ROC	CO	SO _x	PM	PM ₁₀
Pits and Sumps	--	2.03	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	2.04	0.00	0.00	0.00	0.00

C. PEAK QUARTERLY (tpq)

Equipment Category	NO _x	ROC	CO	SO _x	PM	PM ₁₀
Pits and Sumps	--	0.09	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	0.10	0.00	0.00	0.00	0.00

D. PEAK ANNUAL (tpy)

Equipment Category	NO _x	ROC	CO	SO _x	PM	PM ₁₀
Pits and Sumps	--	0.37	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	0.38	0.00	0.00	0.00	0.00

Table 5.4-1
PXP Murphy Brothers Lease: Permit to Operate 8070
Equipment Hazardous Air Pollutant Factors
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		Emission Factors							
Equipment Category	Description	APCD Device No.	Hexane	Benzene	Toluene	Xylene	Iso-Octane	Units	References
Pits and Sumps	Well Cellars	3356	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756
Fugitive Components	Valves, Connections, etc	3355	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756
	Pumps/Compressors/Wellheads	3354	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756

Table 5.4-2
PXP Murphy Brothers Lease: Permit to Operate 8070
Daily and Annual Hazardous Air Pollution Emissions
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Equipment Category	Description	\PCD Device No.	Hexane		Benzene		Toluene		Xylene		Iso-Octane	
			lb/day	ton/year	lb/day	ton/year	lb/day	ton/year	lb/day	ton/year	lb/day	ton/year
Pits and Sumps	Well Cellars	3356	0.36	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.06
Fugitive Components	Valves, Connections, etc	3355	0.47	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.08
	Pumps/Compressors/Wellheads	3354	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals			0.83	0.15	0.01	0.00	0.00	0.00	0.00	0.00	0.73	0.13

Note:

Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.

6.0 Air Quality Impact Analyses

6.1 Modeling

Air quality modeling has not been required for the Murphy Brothers Lease.

6.2 Increments

An air quality increment analysis has not been required for the Murphy Brothers Lease.

6.3 Monitoring

Air quality monitoring is not required for the Murphy Brothers Lease.

6.4 Health Risk Assessment

A health risk assessment has not been performed for the combined PXP Lompoc/Point Pedernales Stationary Source. However, a health risk assessment was performed for the Lompoc Stationary Source prior to being combined with the Point Pedernales Stationary Source.

The PXP Lompoc Stationary Source was subject to the Air Toxics “Hot Spots” Program (AB 2588). A health risk assessment (HRA) for the Lompoc facilities was prepared by the APCD on May 31, 1996 under the requirements of the AB 2588 program. The HRA is based on 1994 toxic emissions inventory data submitted to the APCD.

Based on the 1994 toxic emissions inventory, a cancer risk of about 2 per million at the property boundary was estimated for the PXP Lompoc Stationary Source. This risk is primarily due to benzene emitted at the site. Additionally, chronic and acute noncarcinogenic risks of 0.08 and 0.06 have been estimated by the APCD and are mainly due to H₂S emissions. Approximately 527 pounds of benzene and about 310 pounds of H₂S were emitted from the PXP Lompoc Stationary Source in 1994. The cancer and noncancer risk projections are less than the APCD’s AB 2588 significance thresholds of 10 in a million and 1.0, respectively.

7.0 CAP Consistency, Offset Requirements and ERCs

7.1 General

Santa Barbara County has been classified as non attainment for the state eight-hour ozone standard as well as the state 24-hour and annual PM₁₀ ambient air quality standards. The County is either in attainment of or unclassified with respect to all other state ambient air quality standards.

Santa Barbara County’s air quality has historically violated federal ozone standards. Since 1999 however, local air quality data show that every monitoring location in the County complied with the federal one-hour ambient air quality standard for ozone. The Santa Barbara County Air Pollution District adopted the 2001 Clean Air Plan (2001 CAP) that demonstrated attainment of the federal one-hour ozone standard and continued maintenance of that standard through 2015. Consequently, on August 8, 2003, the United States Environmental Protection

Agency (USEPA) designated Santa Barbara County as an attainment area for the federal one-hour ozone standard.

On June 15, 2004, USEPA replaced the federal one-hour ozone standard with an eight-hour ozone standard. This eight-hour ozone standard, originally promulgated by USEPA on July 18, 1997, was set at 0.08 parts per million measured over eight hours and is more protective of public health and more stringent than the federal one-hour standard. In March 2008, USEPA lowered that standard to 0.075 parts per million. While USEPA has yet to formally designate Santa Barbara County with respect to the 0.075 parts per million standard, the state has recommended to USEPA that Santa Barbara County be designated as attainment.

Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with progress toward attainment or maintenance of federal and state ambient air quality standards. Under APCD regulations, any modifications at the Murphy Brothers lease (or the Point Pedernales/Lompoc Oil Field Stationary Source) that result in an emissions increase of any nonattainment pollutant exceeding 25 lbs/day must apply BACT (NAR). Additional increases may trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 55 lbs/day for all non-attainment pollutants except PM₁₀ for which the level is 80 lbs/day. These thresholds apply to net emission increases since November 15, 1990 as defined in District Rule 801.

7.2

Clean Air Plan

On August 16, 2007, the APCD Board adopted the 2007 Clean Air Plan to chart a course of action that provided for ongoing maintenance of the federal eight-hour ozone standard through the year 2014, as well as the expeditious attainment of the state one-hour ozone standard. These plans were developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments. Santa Barbara County has now attained the state one-hour ozone standard but does not attain the state eight-hour ozone standard.

In 2010 the APCD will update those provisions of the 2007 Clean Air Plan which demonstrate expeditious attainment of the state eight-hour ozone standard. No changes will be made 2007 Clean Air Plan sections which demonstrate continued maintenance of the federal eight-hour ozone standard.

7.3 Offset Requirements

APCD rules and regulations require that emissions from the entire project, when considered in conjunction with emission reductions for existing sources, result in a Net Air Quality Benefit. In addition, project emissions must be consistent with the AQAP and not interfere with reasonable further progress towards attainment and maintenance of ozone standards.

The Point Pedernales Project originally triggered offsets, however, during initial permitting, the Lompoc Oil Field was not associated with the project and was a separate stationary source. The primary project components were the LOGP and Platform Irene. Due to installation of the gas plant at the LOGP in 1996 however, operations at the LOF and LOGP became interrelated and subsequently, the APCD made a determination that the LOF and the Point Pedernales Project constituted a single stationary source. As a result, the existing NEI (FNEI90) associated with the LOF facilities at that time was required to be offset. A detailed discussion of these emissions and offsets is provided in Section 7.3.5 of PTO 6708. Since ROC emissions for the stationary source are currently over 55 lb/day, all project increases in ROC emissions are subject to offsets. There is no NEI specifically associated with the Murphy Brothers Lease and therefore no offsets have been required to date for this lease.

7.4 Emission Reduction Credits

There are no Emission Reduction Credits associated with this facility.

8.0 Lead Agency Permit Consistency

The Santa Barbara County Planning and Development Department is the lead agency for this project. To the APCD's knowledge, this permit is consistent with all provisions of the lead agency permit.

9.0 Permit Conditions

This section lists the applicable permit conditions for the Murphy Brothers Lease. Section A lists the standard administrative conditions. Section B lists 'generic' permit conditions, including emission standards, for all equipment in this permit. Section C lists conditions affecting specific equipment. Section D lists non-federally enforceable (i.e., APCD only) permit conditions. Conditions listed in Sections A, B and C are enforceable by the USEPA, the APCD, the State of California and the public. Conditions listed in Section D are enforceable only by the APCD and the State of California. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally enforceable.

For the purposes of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this permit, nothing in the permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

9.A Standard Administrative Conditions

The following federally-enforceable administrative permit conditions apply to the Murphy Brothers Lease:

A.1 Compliance with Permit Conditions:

- (a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.
- (b) This permit does not convey property rights or exclusive privilege of any sort.
- (c) Any permit noncompliance constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
- (d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.
- (f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:
 - (i) compliance with the permit, or
 - (ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action. *[Re: 40 CFR Part 70.6, APCD Rules 1303.D.1]*
- (g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.

A.2 Emergency Provisions: The permittee shall comply with the requirements of the APCD, Rule 505 (Upset/Breakdown rule) and/or APCD Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the permittee shall provide the APCD, in writing, a “notice of emergency” within 2 working days of the emergency. The “notice of emergency” shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F. *[Re: 40 CFR 70.6, APCD Rule 1303.F]*

A.3 Compliance Plan:

- (a) The permittee shall comply with all federally enforceable requirements that become applicable during the permit term in a timely manner.

- (b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards. *[Re: APCD Rule 1302.D.2]*

A.4 **Right of Entry:** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

- (a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;
- (b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;
- (c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing. *[Re: APCD Rule 1303.D.2]*

A.5 **Permit Life:** The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the APCD. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA, § 502(a) and 503(d) and of the APCD rules.

The permittee shall apply for renewal of the Part 70 permit no later than 180 days before the permit expiration date. Upon submittal of a timely and complete renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. *[Re: APCD Rule 1304.D.1]*

A.6 **Payment of Fees:** The permittee shall reimburse the APCD for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the APCD and the USEPA pursuant to section 502(a) of the Clean Air Act. *[Re: APCD Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6]*

A.7 **Prompt Reporting of Deviations:** The permittee shall submit a written report to the APCD documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7-days after discovery of the violation, but not later than 180-days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation, 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to APCD in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. *[APCD Rule 1303.D.1, 40 CFR 70.6(a) (3)]*

A.8 **Reporting Requirements/Compliance Certification:** The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six-months. These reports shall be submitted on APCD forms and shall identify each applicable requirement/condition of the

permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1st and March 1st, respectively, each year. Supporting monitoring data shall be submitted in accordance with the "Semi-Annual Compliance Verification Report" condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. *[Re: APCD Rules 1303.D.1, 1302.D.3, 1303.2.c]*

A.9 **Federally-Enforceable Conditions:** Each federally-enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the APCD-only enforceable section of this permit are federally-enforceable or subject to the public/USEPA review. *[Re: CAAA, § 502(b)(6), 40 CFR 70.6]*

A.10 **Recordkeeping Requirements:** Records of required monitoring information shall include the following:

- (a) The date, place as defined in the permit, and time of sampling or measurements;
- (b) The date(s) analyses were performed;
- (c) The company or entity that performed the analyses;
- (d) The analytical techniques or methods used;
- (e) The results of such analyses; and
- (f) The operating conditions as existing at the time of sampling or measurement;

The records (electronic or hard copy), as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by PXP and shall be made available to the APCD upon request. *[Re: APCD Rule 1303.D.1.f, 40CFR70.6(a)(3)(ii)(A)]*

A.11 **Conditions for Permit Reopening:** The permit shall be reopened and revised for cause under any of the following circumstances:

- (a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30 day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.
- (b) Inaccurate Permit Provisions: If the APCD or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the

emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

- (c) Applicable Requirement: If the APCD or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally-enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Administrative procedures to reopen and revise/revoke/reissue a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which cause to reopen exists.

If a permit is reopened, the expiration date does not change. Thus, if the permit is reopened, and revised, then it will be reissued with the expiration date applicable to the re-opened permit. [*Re: 40 CFR 70.7, 40 CFR 70.6*]

9.B. Generic Conditions

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. These conditions are federally enforceable. Compliance with these requirements is discussed in Section 3. In case of a discrepancy between the wording of a condition and the applicable federal or APCD rule(s), the wording of the rule shall control.

- B.1 **Circumvention (Rule 301):** A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of APCD Rule 303. *[Re: APCD Rule 301]*
- B.2 **Visible Emissions (Rule 302):** PXP shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:
- (a) As dark or darker in shade as that designated as No. 1 on the Ringlemann Chart, as published by the United States Bureau of Mines, or
 - (b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.2.(a) above. *[Re: APCD Rule 302]*
- B.3 **Nuisance (Rule 303):** No pollutant emissions from any source at PXP shall create nuisance conditions. Operations shall not endanger health, safety or comfort, nor shall they damage any property or business. *[Re: APCD Rule 303]*
- B.4 **Specific Contaminants (Rule 309):** PXP shall not discharge into the atmosphere from any single source sulfur compounds and combustion contaminants (particulate matter) in excess of the applicable standards listed in Sections A through E of Rule 309. *[Re: APCD Rule 309].*
- B.5 **Organic Solvents (Rule 317):** PXP shall comply with the emission standards listed in Rule 317.B. Compliance with this condition shall be based on PXP's compliance with Condition C.3 of this permit. *[Re: APCD Rule 317]*
- B.6 **Metal Surface Coating Thinner and Reducer (Rule 322):** The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. Compliance with this condition shall be based on PXP's compliance with Condition C.3 of this permit and facility inspections. *[Re: APCD Rule 322]*
- B.7 **Architectural Coatings (Rule 323):** PXP shall comply with the coating ROC content and handling standards listed in Section D of Rule 323 as well as the Administrative requirements listed in Section F of Rule 323. Compliance with this condition shall be based on PXP's

compliance with Condition C.3 of this permit and facility inspections. *[Re: APCD Rules 323, 317, 322, 324]*

- B.8 **Disposal and Evaporation of Solvents (Rule 324):** PXP shall not dispose through atmospheric evaporation of more than one and a half gallons of any photochemically reactive solvent per day. Compliance with this condition shall be based on PXP's compliance with Condition C.3 of this permit and facility inspections. *[Re: APCD Rule 324]*
- B.9 **Adhesives and Sealants (Rule 353):** PXP shall not use adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless the permittee complies with the following:
- (a) Such materials used are purchased or supplied by the manufacturer or suppliers in containers of 16 fluid ounces or less; or alternately
 - (b) When PXP uses such materials from containers larger than 16 fluid ounces and the materials are not exempt by Rule 353.B.1, the total reactive organic compound emissions from the use of such material shall not exceed 200 pounds per year unless the substances used and the operational methods comply with Sections D, E, F, G, and H of Rule 353. Compliance shall be demonstrated by recordkeeping in accordance with Section B.2 and/or Section O of Rule 353. *[Re: APCD Rule 353]*
- B.10 **CARB Registered Portable Equipment:** State registered portable equipment shall comply with State registration requirements. A copy of the State registration shall be readily available whenever the equipment is at the facility. *[Re: APCD Rule 202]*
- B.11 **Oil and Natural Gas Production MACT:** PXP shall comply with the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage (promulgated June 17, 1999). At a minimum, PXP shall maintain records in accordance with 40 CFR Part 63, Subpart A, Section 63.10(b) (1) and (3). *[Re: 40 CFR 63, Subpart HH]*
- B.12 **Emergency Episode Plans (Rule 603):** During emergency episodes, the permittee shall implement the Emergency Episode Plan dated March 30, 1999. *[Reference APCD Rule 603]*

9.C Requirements and Equipment Specific Conditions

Federally-enforceable conditions, including emissions and operations limits, monitoring, recordkeeping and reporting are included in this section for each specific group of equipment as well as other non-generic requirements.

- C.1 **Fugitive Hydrocarbon Emissions Components:** The following equipment are included in this emissions unit category:

APCD Device No.	Equipment
3355	Valves, flanges and other components in hydrocarbon service

- (a) Emission Limits. Not applicable.
- (b) Operational Limits. Operation of the equipment listed in this section shall conform to the requirements listed in APCD Rule 331.D and E. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit. In addition PXP shall meet the following requirements:
 - (i) *I&M Program*. The APCD-approved I&M Plan for this lease shall be implemented for the life of the project. The Plan, and any subsequent APCD approved revisions, is incorporated by reference as an enforceable part of this permit. An updated Fugitive Emissions Inspection and Maintenance Plan must be submitted to the APCD for review and approval within one calendar quarter whenever there is a change in the component list or diagrams.
 - (ii) *Venting*. All routine venting of hydrocarbons shall be routed to either a sales compressor, flare header, injection well or other APCD-approved control device.
- (c) Monitoring. The equipment listed in this section are subject to all the monitoring requirements listed in APCD Rule 331.F. The test methods in Rule 331.H shall be used, when applicable.
- (d) Recordkeeping. All inspection and repair records shall be retained at the source for a minimum of five years. The equipment listed in this section are subject to all the recordkeeping requirements listed in APCD Rule 331.G.
- (e) Reporting. On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit. [Re: APCD Rules 331, 325 and 1303, 40 CFR 70.6]

C.2 **Well Cellars:** The following equipment are included in this emissions category:

APCD Device No.	Equipment Name
3356	Well Cellars

- (a) Emission Limits. Not applicable.
- (b) Operational Limits. All process operations from the equipment listed in this section shall meet the requirements of APCD Rule 344, including the following:
 - (i) A person shall not open any valve at the wellhead without using a portable container to catch and contain any organic liquid that would otherwise drop on the ground or into the well cellar. Such container shall be kept closed when not in use.
 - (ii) Immediately before a well is steamed or after a well head is steam cleaned, the well cellar in which it is located shall be pumped out.
 - (iii) Neither of the following conditions shall occur unless the owner or operator discovered the condition and the well cellar is pumped within 7-days of discovery:
 - (a) liquid depth exceeding 50-percent of the depth of the well cellar.
 - (b) oil/petroleum depth exceeding 2-inches.

If a well cellar cannot be accessed by a vacuum truck due to muddy conditions, the well cellar shall be pumped as soon as it becomes accessible.
- (c) Monitoring. PXP shall inspect the well cellars on a weekly basis to ensure that the liquid depth and the oil/petroleum depth does not exceed the limits in Rule 344.D.3.c.
- (d) Recordkeeping. The following information relating to detection of conditions requiring pumping of a well cellar as required in Section D.3.c shall be recorded for each detection:
 - (i) the date of the detection,
 - (ii) the name of the person and company performing the test or inspection, and
 - (iii) the date and time the well cellar is pumped.
- (e) Reporting. None

[Re: APCD Rules 344.D.3 and 344.G.2, 40 CFR 70.6]

C.3 **Solvent Usage:** The following items are included in this emissions unit category:
Photochemically reactive solvents, surface coatings and general solvents.

- (a) Emission Limits. The following solvent emission limits are federally-enforceable for the entire stationary source:

Solvent Type	lbs/hour	Lbs/day
Photochemically Reactive	8 lbs/hour	40 lbs/day
Non-Photochemically Reactive	450 lbs/hour	3,000 lbs/day

- (b) Operational Limits. Use of solvents for cleaning/degreasing shall conform to the requirements of APCD Rules 317, 322, 323 and 324. Compliance with these rules shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit and facility inspections.

- (i) *Containers.* Vessels or containers used for storing materials containing organic solvents shall be kept closed unless adding to or removing material from the vessel or container.
- (ii) *Materials.* All materials that have been soaked with cleanup solvents shall be stored, when not in use, in closed containers that are equipped with tight seals.
- (iii) *Solvent Leaks.* Solvent leaks shall be minimized to the maximum extent feasible or the solvent shall be removed to a sealed container and the equipment taken out of service until repaired. A solvent leak is defined as either the flow of three liquid drops per minute or a discernable continuous flow of solvent.
- (iv) *Reclamation Plan.* PXP may submit a Plan to the District for the disposal of any reclaimed solvent. If the Plan is approved by the District, all solvent disposed of pursuant to the Plan will not be assumed to have evaporated as emissions into the air and, therefore, will not be counted as emissions from the source. PXP shall obtain District approval of the procedures used for such a disposal Plan. The Plan shall detail all procedures used for collecting, storing and transporting the reclaimed solvent. Further, the ultimate fate of these reclaimed solvents must be stated in the Plan.

- (c) Monitoring. none

- (d) Recordkeeping. PXP shall record in a log the following on a monthly basis for each solvent used: amount used; the percentage of ROC by weight (as applied); the solvent density; the amount of solvent reclaimed for APCD-approved disposal; whether the solvent is photochemically reactive; and, the resulting emissions to the atmosphere in units of pounds per month and pounds per day. Product sheets (MSDS or equivalent) detailing the constituents of all solvents shall be maintained in a manner readily accessible to APCD inspection.

For the leases in the Lompoc Oilfield, the permittee may keep the log of solvent/coating use on a field-wide basis. The emissions for each lease may be calculated by proportioning the number of active wells per lease by the total solvent emissions of the Lompoc Oilfield.

- (e) **Reporting.** On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

[Re: 40 CFR 70.6, APCD Rules 317, 322, 323, 324]

- C.4 **Recordkeeping:** PXP shall maintain all records and logs required by this permit or any applicable federal rule or regulation for a minimum of five calendar years from the date of information collection and log entry at the lease. These records or logs shall be readily accessible and be made available to the APCD upon request.

[Re: 40 CFR 70.6, APCD Rule 1303]

- C.5 **Requirements for Produced Gas:** The emissions of produced gas shall be controlled at all times using a properly maintained and operated system that directs all produced gas, except gas used in a tank battery vapor recovery system, to one of the following: (a) a system handling gas for fuel, sale, or underground injection; or (b) a flare that combusts reactive organic compounds; or (c) a device with an ROC vapor removal efficiency of at least 90-percent by weight. The provisions of this condition shall not apply to wells which are undergoing routine maintenance.

[Re: APCD Rule 325]

- C.6 **Semi-Annual Monitoring/Compliance Verification Reports:** PXP shall submit a report to the APCD every six-months to verify compliance with the emission limits and other requirements of this permit. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1st and March 1st, respectively, each year, and shall be in a format approved by the APCD. All logs and other basic source data not included in the report shall be available to the APCD upon request. The second report shall also include an annual report for the prior four quarters. The report shall include the following information:

- (a) Rule 331 fugitive hydrocarbon I&M program data:
- inspection summary.
 - record of leaking components.
 - record of leaks from critical components.
 - record of leaks from components that incur five repair actions within a continuous 12-month period.
 - record of component repair actions including dates of component re-inspections.
- (b) **Reporting:** The total volume of solvents used on Lompoc Oilfield leases shall be included in the semi-annual report for the La Purisima Lease (PTO 7126).

9.D **APCD-Only Conditions**

The following section lists permit conditions that are not federally-enforceable (i.e., not enforceable by the USEPA or the public). However, these conditions are enforceable by the APCD and the State of California. These conditions have been determined as being necessary to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any of these conditions shall be a violation of APCD Rule 206, this permit, as well as any applicable section of the California Health & Safety Code.

- D.1 **Severability:** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.
- D.2 **Compliance:** Nothing contained within this permit shall be construed as allowing the violation of any local, state or federal rules, regulations, air quality standards or increments.
- D.3 **Abrasive Blasting Equipment:** All abrasive blasting activities performed on the Murphy Brothers Lease shall comply with the requirements of the California Administrative Code Title 17, Sub-Chapter 6, Sections 92000 through 92530.
- D.4 **Annual Compliance Verification Reports:** PXP shall submit a report to the APCD, by March 1st of each year containing the information listed below and shall document compliance with all applicable permit requirements. These reports shall be in a format approved by the APCD. All logs and other basic source data not included in the report shall be available to the APCD upon request. Pursuant to Rule 212, the annual report shall include a completed *APCD Annual Emissions Inventory* questionnaire or alternatively, the questionnaire may be completed/submitted via the APCD website. The report shall include the following information:
- (a) Breakdowns and variances reported/obtained per Regulation V along with the excess emissions that accompanied each occurrence.
 - (b) The ROC and NO_x emissions from all permit-exempt activities (tons per year by device/activity).
 - (c) The annual emissions totals of all pollutants in tons per year for each emission unit and summarized for the entire facility.
- D.5 **Mass Emission Limitations:** Mass emissions for each equipment item (i.e., emissions unit) associated with the Murphy Brothers Lease shall not exceed the values listed in Table 5.1-3 and 5.1-4. Emissions for the entire facility shall not exceed the total limits listed in Table 5.2.
- D.6 **Grounds for Revocation:** Failure to abide by and faithfully comply with this permit or any Regulation, Rule or Order, shall constitute grounds for the APCO to petition for permit revocation pursuant to California Health & Safety Code Section 42307 *et seq.*

- D.7 **Odorous Organic Sulfides (Rule 310):** PXP shall not discharge into atmosphere H₂S and organic sulfides that result in a ground level impact beyond the PXP property boundary in excess of either 0.06 ppmv averaged over 3 minutes and 0.03 ppmv averaged over 1 hour. *[Re: APCD Rule 310]*

Air Pollution Control Officer

Date

NOTES:

- (a) This permit supersedes all previous APCD PTO permits issued for the Murphy Brothers Lease
- (b) Permit Reevaluation Due Date: December 2012
- (c) Part 70 Operating Permit Expiration Date: December 2012

10.0 Attachments

10.1 Emission Calculation Documentation

10.2 Emission Calculation Spreadsheets

10.3 Fee Calculations

10.4 IDS Database Emission Tables

10.5 Equipment List

10.6 Well List

10.1 Emission Calculation Documentation PXP Murphy Brothers Lease

This attachment contains all relevant emission calculation documentation used for the emission tables in Section 5. Refer to Section 4 for the general equations. Detailed calculation spreadsheets are attached as Attachment 10.2.

Reference A - Pits, Sumps and Wastewater Tanks

The maximum operating schedule is in units of hours;

Emission calculation methodology based on the CARB/KVB report *Emission Characteristics of Crude Oil Production Operations in California (1/83)*;

Calculations are based on surface area of emissions noted in the inspector's report;

The THC Speciation is based on CARB profiles # 529, 530, 531, 532; the ROC/TOC ratio is based on the APCD's guideline "*VOC/ROC Emission Factors and Reactivities for Common Source Types*" Table dated 07/13/98 (version 1.1).

Reference B - Pipeline Components Emitting Fugitive ROCs

Emission factors are based on the *APCD P&P 6100.060* guidelines.

In determining the facility model using the CARB/KVB methodology for fugitive emissions, a default Gas Oil Ratio of 501 scf/bbl was used. This value assumes the worst case model.

An 80% reduction in fugitive emissions was assumed due to the implementation of a fugitive inspection and maintenance plan pursuant to Rule 331.

Reference C - Solvents

All solvents not used to thin surface coatings are included in this equipment category.

Daily and annual emission rates assumed to be minimal (0.01 lb/day, 0.01 TPY)

10.2 Emission Calculation Spreadsheets

A. *Fugitive Hydrocarbon Calculations CARB/KVB Method*

10.3 Fee Calculations

Emission fees for the permit reevaluation of PTO 8070 are based on Fee Schedule A of APCD Rule 210. Fees are based on the final issuance date of this permit.

All work performed with respect to implementing the requirements of the Part 70 Operating Permit program are assessed on a cost reimbursement basis pursuant to APCD Rule 210.

FEE STATEMENT
PT-70/Reeval No. 08070 - R7
FID: 03799 Murphy Brothers Lease / SSID: 04632



Device Fee

Device No.	Device Name	Fee Schedule	Qty of Fee Units	Fee per Unit	Fee Units	Max or Min. Fee Apply?	Number of Same Devices	Pro Rate Factor	Device Fee	Penalty Fee?	Fee Credit	Total Fee per Device
003354	Oil and Gas Wells	A1.a	1.000	58.66	Per equipment	No	2	1.000	117.32	0.00	0.00	117.32
003355	Valves & Fittings	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
Device Fee Sub-Totals =									\$175.98	\$0.00	\$0.00	
Device Fee Total =												\$175.98

Permit Fee

Minimum Reeval Fee 365.00

Fee Statement Grand Total = \$365

Notes:

-
- (1) Fee Schedule Items are listed in APCD Rule 210, Fee Schedule "A".
(2) The term "Units" refers to the unit of measure defined in the Fee Schedule.

10.4 IDS Database Emission Tables

Table 1
Permitted Potential to Emit (PPTE)

	NO _x	ROC	CO	SO _x	TSP	PM ₁₀
PTO 8070 – Murphy Brothers Lease						
lb/day		4.72				
tons/year		0.86				

Table 2
Facility Potential to Emit (FPTE)

	NO _x	ROC	CO	SO _x	TSP	PM ₁₀
PTO 8070 – Murphy Brothers Lease						
lbs/day		4.72				
tons/year		0.86				

Table 3
Federal PT-70 Facility Potential to Emit (PT 70 FPTE)

	NO _x	ROC	CO	SO _x	TSP	PM ₁₀
PTO 8070 – Murphy Brothers Lease						
lbs/day		2.04				
tons/year		0.38				

Table 4
Facility Net Emission Increase Since 1990 (FNEI-90)

	NO _x	ROC	CO	SO _x	TSP	PM ₁₀
PTO 8070 – Murphy Brothers Lease						
lbs/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00

Table 5
Facility Exempt Emissions (FXMT)

	NO _x	ROC	CO	SO _x	TSP	PM ₁₀
PTO 8070 – Murphy Brothers Lease						
lbs/day	0.00	0.00	0.00	0.00	0.00	0.00

tons/year	0.00	0.00	0.00	0.00	0.00	0.00
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10.5 Equipment List

Tuesday, August 04, 2009
Santa Barbara County APCD – Equipment List

PT-70/Reeval 08070 R7 / FID: 03799 Murphy Brothers Lease / SSID: 04632

A PERMITTED EQUIPMENT

1 O&G Wells, Cellars and Unassociated Valves & Flanges

1.1 Oil and Gas Wells

<i>Device ID #</i>	003354	<i>Device Name</i>	Oil and Gas Wells
<i>Rated Heat Input</i>		<i>Physical Size</i>	2.00 Total Wells
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	Each well is equipped with a well cellar.		
<i>Description</i>			

1.2 Well Cellars

<i>Device ID #</i>	003356	<i>Device Name</i>	Well Cellars
<i>Rated Heat Input</i>		<i>Physical Size</i>	72.00 Square Feet Cellar Area
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	Each cellar is approximately 6 feet by 6 feet (36 SF each).		
<i>Description</i>			

1.3 Valves & Fittings

<i>Device ID #</i>	003355	<i>Device Name</i>	Valves & Fittings
<i>Rated Heat Input</i>		<i>Physical Size</i>	2.00 Active Wells
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	Valves, fittings and flanges, not directly associated with other permitted equipment items, which emit fugitive hydrocarbon emissions.		
<i>Description</i>			

10.6 Well List

Attachment 10.6. Permitted Wells.

<u>Operator Name</u>	<u>Field Name</u>	<u>Lease</u>	<u>Well #</u>	<u>API</u>	<u>Well Stat</u>	<u>Pool</u>	<u>Well Type</u>	<u>PWT Stat</u>	<u>S</u>	<u>T</u>	<u>R</u>	<u>Field</u>	<u>Area</u>	<u>Area Name</u>	NEI
Plains Expl. & Prod. Co.	Lompoc	Murphy	1	08301833	Idle	05	OG	Idle	34	8N	34W	410	03	Main Area	No
Plains Expl. & Prod. Co.	Lompoc	Murphy	4	08301837	Idle	05	OG	Idle	34	8N	34W	410	03	Main Area	No

1. This table represents the number of active and idle oil and gas wells at this facility as reported by the DOGGR.
2. Section (S), Township (T) and Range, (R) is a surveyed rectangular land grid system that covers most of the United States. A township is the measure of units north or south of a baseline, the horizontal line where the survey began. A Range is the measure of units east or west of a meridian, the vertical line where the survey began. Each Township/Range is thirty-six square miles, measuring 6 miles by 6 miles, and contains 36 one-mile square sections. In California, there are three base and meridians, Humboldt, Mount Diablo, and San Bernardino.